

Bill of materials
Table 1. STDES-VPGAN100F

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	1	BD1	GBU8J	Diode Rectifier Bridge Single 600V 8A 4-Pin Case GBU Bulk	Vishay	GBU8J
2	1	C1	68nF, 275V	WCAP-FTX2 Film Capacitor, THT, L10W6H12, 68nF, 275V	Wurth Elektronik	890324022017
3	1	C2	220nF, 275V	WCAP-FTX2 Film Capacitor, THT, L18W6H11.5, 220nF, 275V	Wurth Elektronik	890324025027
4	1	C3	33uF, 450V	WCAP-AT1H Aluminum Electrolytic Capacitor, Radial, THT, D18xH21mm, 33uF, 450V	Wurth Elektronik	860241481006
5	1	C4	470nF, 250V	WCAP-FTBP Film Capacitor, THT, L18W5H11, 470nF, 250V	Wurth Elektronik	890273325005CS
6	1	C5	10nF, 100V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0805, X7R, 10nF, 100V	Wurth Elektronik	885012207122
7	5	C6, C8, C15, C24, C30	100nF, 50V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 100nF, 50V	Wurth Elektronik	885012206095
8	1	C7	22uF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 1210, X7R, 22uF, 25V	Wurth Elektronik	885012209074
9	1	C9	1.5uF, 10V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General	Wurth Elektronik	885012207023

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				Purpose, size 0805, X7R, 1.5uF, 10V		
10	1	C10	4.7nF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 4.7nF, 16V	Wurth Elektronik	885012206038
11	1	C11	220pF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 220pF, 16V	Wurth Elektronik	885012206030
12	1	C12	2.2nF, 250V	WCAP-CSSA Multilayer Ceramic Chip Safety Capacitor, size 2211, X1/Y2, 2.2nF, 250V	Wurth Elektronik	885352213015
13	2	C13, C14	2.2nF, 630V	WCAP-CSMH Multilayer Ceramic Chip Capacitor, size 1206, NP0 Class I, 2.2nF, 630V	Wurth Elektronik	885342008007
14	2	C16, C17	470uF	WCAP-PTG5 Aluminum Polymer Capacitor, Radial THT, D8xH11.5mm, 470uF, 16V	Wurth Elektronik	870025374007
15	1	C18	3.3nF, 100V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0805, X7R, 3.3nF, 100V	Wurth Elektronik	885012207119
16	3	C19, C20, C28	1uF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0805, X7R, 1uF, 25V	Wurth Elektronik	885012207078
17	1	C21	100uF, 35V	WCAP-ATG5 Aluminum Electrolytic Capacitor, Radial, THT, D6.3xH11mm, 100uF, 35V	Wurth Elektronik	860020573008

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18	1	C22	N.A.			
19	1	C23	N.A.			
20	1	C25	1uF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X5R, 1uF, 16V	Wurth Elektronik	885012106017
21	1	C26	220pF, 50V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 220pF, 50V	Wurth Elektronik	885012206079
22	1	C27	10nF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 10nF, 25V	Wurth Elektronik	885012206065
23	1	C29	220nF, 25V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 220nF, 25V	Wurth Elektronik	885012206073
24	1	C32	1nF, 16V	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 6.8nF, 16V	Wurth Elektronik	885012206039
25	2	D1, D2	STTH2L06U,	600 V, 2 A Low Drop Ultrafast Diode	ST	STTH2L06U
26	5	D3, D4, D5, D10, D11	LL4148	Rectifier Diode, 1 Phase, 1 Element, 0.2A, 100V V(RRM), Silicon, DO-213AC, Small Signal Diode	Diodes Inc	LL4148
27	1	D6	BAT46ZFILM	DIODE SCHOTTKY 100V 150MA SOD123	ST	BAT46ZFILM
28	2	D7, D9	BAS21	High Speed Switching Diode 250V 0.25A 3- Pin SOT-23 T/R	Any	BAS21

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29	1	D8	STTH2L06A	600 V, 2 A Low Drop Ultrafast Diode	ST	STTH2L06A
30	1	DZ1	20V/1W	Z-diode 1W 20V 5% Sma	Panjit	SMAZ20-13-F
31	1	DZ2	22V/0.5W	DIODE ZENER 22V 500MW SOD80C	Nexperia	BZV55-C22,115
32	2	DZ3, DZ4	N.A.			
33	1	F1	3.15A/250V	Fuse Subminiature Slow Blow Acting 3.15A 250V Radial 8.5 X 8.5mm Thermoplastic	Schurter	0034.6620
34	1	L1	YEF20V-4P20MH	CMC, 20mH	Trigon Components	YEF20V-4P20MH
35	1	NTC1	2.2Ω	Inrush Current Limiter, Diameter 11.5mm, Width 5.0mm, Height 16.0mm, Leads 5.0mm, 2.2Ω, 6 / 5A	TDK	B57236S0229M000
36	1	Q1	STF24N60M2	N-channel 600 V, 0.168 Ohm typ., 18 A MDmesh M2 Power MOSFET in TO-220FP package	ST	STF24N60M2
37	1	Q2	N.A.			
38	1	Q3	STP310N10F7	N-channel 100 V, 2.3 mOhm typ., 180 A STRipFET F7 Power MOSFET in a TO-220 package	ST	STP310N10F7
39	1	Q4	N.A.			
40	4	R1, R2, R3, R39	N.A.			
41	1	R4	100R - 1W	Res Thick Film 2512 100 Ohm 5% 1W 100ppm/°C Molded SMD Embossed T/R	Yageo	RC2512JK-07100RL
42	2	R5, R36	N.A.			
43	3	R6, R19, R44	47K	Res Thick Film 0603 47K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
44	2	R7, R11	3M3	Res Thick Film 1206 3.3M Ohm 1% 1/4W ±100ppm/°C	Bourns	CHV1206-FX-3304ELF

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
				Molded SMD Paper T/R		
45	1	R8	21K	Res Thick Film 0603 21K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
46	3	R9, R10, R12	100K	SMD Chip Resistor, 100K Ohm, ± 5%, 125 mW, 0805 [2012 Metric], Thick Film, General Purpose	Any	
47	3	R13, R52, R56	0R	Zero Ohm Resistor, Jumper, 0603 [1608 Metric], Thick Film, 100 mW, 1 A, Surface Mount	Any	
48	1	R14	27K	'Res Thick Film 0603 27K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
49	1	R15	4R7	Res Thick Film 0603 4.7 Ohm 5% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
50	1	R16	732R	Res Thick Film 0603 732 Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
51	1	R17	22R	Res Thick Film 0603 22 Ohm 5% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
52	2	R18, R40	1K5	Res Thick Film 0603 1.5K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
53	2	R20, R41	0R	Zero Ohm Resistor, Jumper, 0805 [2012 Metric], Thick Film, 125 mW, 2 A, Surface Mount Surface Mount, 0805	Any	
54	2	R21, R22	0.51R - 1W	Res Thick Film 2010 0.51 Ohm 1% 1W	Bourns	CRM2010-FX- R510ELF

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
				±100ppm/°C Molded SMD		
55	1	R23	24K	Res Thick Film 0603 24K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
56	1	R24	470R	'Res Thick Film 0603 470 Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
57	4	R25, R26, R27, R28	220K	Res Thick Film 2010 220K Ohm 5% 3/4W ±100ppm/°C Molded SMD SMD Embossed T/R	Yageo	RC2010JK-07220KL
58	1	R29	N.A.			
59	3	R30, R31, R33	0R022	Res Thick Film 2512 0.022 Ohm 1% 1W ±1200ppm/C Epoxy SMD Automotive T/R	Yageo	RL2512FK-070R022L
60	1	R32	10M	Res Thick Film 1206 10M Ohm 1% 1/4W ±100ppm/°C Molded SMD Paper T/R	Bourns	CHV1206- FX-1005ELF
61	1	R34	18R	Res Thick Film 1206 18 Ohm 1% 1/4W ±100ppm/°C Molded SMD Paper T/R	Any	
62	1	R35	330R	Res Thick Film 0603 330 Ohm 1% 0.1W(1/10W) +/-100ppm/βC Pad SMD Automotive T/R	Any	
63	2	R37, R49	31K6	SMD Resistor, Res Thick Film 0603 31.6K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
64	1	R38	10R	SMD Chip Resistor, 10 Ohm, ± 5%, 125 mW, 0805 [2012 Metric], Thick Film, General Purpose	Any	

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
65	2	R42, R43	6R8	Res Thick Film 1206 6.8 Ohm 1% 1/4W ±100ppm/°C Molded SMD Paper T/R	Any	
66	1	R45	100K	'Res Thick Film 0603 100K Ohm 1% 1/10W ±100ppm/°C Molded SMD SMD Paper T/R	Any	
67	1	R46	130K	Res Thick Film 0603 130K Ohm 1% 1/10W ±100ppm/°C Molded SMD SMD Paper T/R	Any	
68	1	R47	10K	Res Thick Film 0603 10K Ohm 1% 1/10W ±100ppm/°C Molded SMD SMD Paper T/R	Any	
69	1	R48	1K	Res Thick Film 0603 1K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
70	1	R50	47R	Res Thick Film 0603 47 Ohm 1% 0.1W(1/10W) +/-100ppm/°C Pad SMD Automotive T/R	Any	
71	1	R53	330K	Res Thick Film 0603 330K Ohm 1% 1/10W ±100ppm/°C Molded SMD SMD Paper T/R	Any	
72	1	R54	120K	Res Thick Film 0603 120K Ohm 1% 0.1W(1/10W) ±100ppm/°C Pad SMD Automotive T/R	Any	
73	2	R59, R60	15K	Res Thick Film 0603 15K Ohm 1% 1/10W ±100ppm/°C Molded SMD Paper T/R	Any	
74	1	RV1	N.A.			
75	1	T1	YPQ2620V-12P4 50UHA	Transformer 12- Terminal , THT, Vertical, PQ Style Bobbins, PQ2620	Trigon Components	YPQ2620V-12P450U HA

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
76	1	T2	YPQ3220V-12P600UHB	Transformer 12-Terminal , THT, Vertical, PQ Style Bobbins, PQ3220	Trigon Components	YPQ3220V-12P600UHB
77	1	U1	L6562AD	Power Factor Correction	ST	L6562AD
78	1	U2	SRK1000B	Adaptive synchronous rectification controller for flyback converter, SOT23-6L, Tape and Reel	ST	SRK1000BTR
79	1	U3	FOD817AS	4-Pin Phototransistor Optocouplers	ONSEMI	FOD817AS
80	1	U4	LM2904D	Low-Power Dual Operational Amplifier	ST	LM2904D
81	1	U5	ViperGan100	Advanced quasi-resonant offline high voltage converter with E-mode GaN HEMT	ST	VIPERGAN100TR
82	1	U6	TL431AIL3T	Voltage Reference, AEC-Q100, Shunt - Adjustable, 2.5V to 36V, 1 % Ref, SOT-23-3	ST	TL431AIL3T

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